

PROJECT NUMBER: 2525  
PROJECT TITLE: Tobacco Chemistry  
PROJECT LEADER: R. R. Izac  
PERIOD COVERED: January, 1989

## I. NATURAL PRODUCTS CHEMISTRY

- A. Objective: To isolate, identify and/or analyze natural compounds with major emphasis on tobacco and tobacco products.
- B. Results: 1.) About a gram of solanesol was isolated from Diet solids for AR (H. Randolph) and I. Uydess. 2.) As part of a collaboration with Project 6906, the separation of Burley S1 (BuS1) fraction using Davisil C18 was completed. A filter funnel was filled with the C18 packing and the BuS1 applied. Elution with water and methanol separated the material into two fractions. Five more such washings were needed to remove remaining material-- the latter fractions (F2-F7) were combined. The resulting two fractions were submitted to D. Magin for further analysis.
- C. Plans: Continue separation of BuS1 using other methods.
- D. References:
1. Izac, R. Notebook No. 8632.
  2. Core, M. Notebook No. 8608.

## II. GREENHOUSE STUDIES

- A. Objective: To maintain the R&D greenhouses, to conduct plant research studies and to provide greenhouse-grown tobacco materials for support of other R&D programs.
- B. Results: 1.) The preparation of the hydroponic Burley 21 plants been started. These plants are being grown for Project 1904. 2.) The greenhouse maintenance operations including seeding, transplanting, nutrient solution preparation and other cultural tasks were completed. The installation of new vent screens is in progress. 3.) Culture of Dryopteris felix-mas is continuing and several more of these have been ordered. Specific compound of interest (phloroglucinols) to FTR and AR will be isolated from the plants at maturity.
- C. Plans: Maintain production of fresh root tissue by hydroponic culture.
- D. References:
1. Bass, R. Notebook No. 8607.
  2. West, G. Notebook No. 8559.
  3. Izac, R. Notebook No. 8632.

**III. SUPPORT ACTIVITIES**

- A. Objective:** To provide requested assistance for special projects.
- B. Results:** 1.) Solanesol was hydrogenated and the resulting octadecylhydrosolanesol purified for AR. The sample is to be used as an internal standard in the analysis of solanesol. 2.) A sample of succinylated nicotine is being chromatographed by hplc for H. Secor. 3.) During the last few months, a total of 469 hand made cigarettes were fabricated for the sidestream control project. 4.) The thirty third Tobacco Workers Conference was attended. As the PM representative, R. Bass attended the Variety Standards Committee meetings. 5.) Filler from the 1988 Burley Tobacco Regional Farm Test were received and processed into cigarettes for flavor panel evaluation.
- C. Plans:** Continue chromatography of succinylated nicotine.
- D. References:**
1. Izac, R. Notebook No. 8632.
  2. Bass, R. Notebook No. 8607.
  3. Core, M. Notebook No. 8608.